

with a single serrated tooth which fits into a pit in the opposite valve. The tooth in the lower valve is the largest and most deeply serrated. Inner margin of both valves crenated all around except in hinge region. Greatest diameter of type, 23 millimeters.

TYPE: No. 1058, paratype No. 1058a, Los Angeles Museum; dredged by G. Willett in 30 fathoms off southwest side of Clarion Island, Mexico, March 24, 1938. Many additional upper valves secured, but very few complete specimens, the lower valves being firmly attached.

This species somewhat resembles *P. granti* Strong, from Catalina Island, California, but differs in slightly larger size, much more brilliant coloration, more rugose upper valve with its submarginal folded fronds, and much more shallow lower valve.

A specimen of *P. granti* was dredged in 25 fathoms at the San Benito Islands, this constituting a southward extension of the known range of that species.

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## A NEW TURBONILLA FROM REDONDO BEACH, CALIFORNIA

BY MACKENZIE GORDON, JR.

During the months of May and June, 1938, I had the pleasure of doing quite a bit of dredging off Redondo Beach, California, with Mr. John Q. Burch of that town, and his son, Tom Burch. We concentrated on a gravel bed a few acres in extent about a mile off shore and succeeded in sorting through about a ton of material. As seems inevitable when a locality is carefully worked, a new species of *Turbonilla* turned up for which I submit the following description:

**TURBONILLA (PYRGISCUS) BURCHI**, new species. Pl. 4, figs. 3-5.

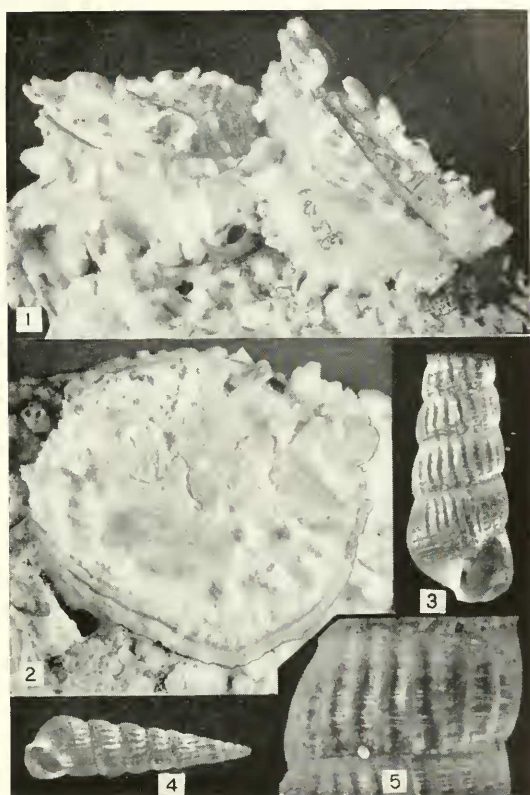
Shell large, broadly-conic, flesh-colored with a wide brown band which extends from one-fourth the distance from the suture to the periphery, to one-fourth the distance from the periphery to the columella. Early nuclear whorls broken away; remaining half-turn smooth, slightly oblique, and slightly immersed in the first post-nuclear whorl. Post-nuclear whorls rounded, slightly appressed at the summit, marked on the early whorls by rather strong, almost vertical, rounded, axial ribs, which become slightly

retractive on the last three whorls. Of these, there are 14 on the third, 16 on the fourth to sixth, 17 on the seventh, 18 on the eighth, 20 on the ninth, 22 on the tenth, and 28 on the last whorl. The spiral sculpture consists of heavily incised lirae or elongated pits and finely incised lines. There are five rows of the elongated pits: the first, second, and fourth of equal strength, and the third and fifth slightly stronger. The first of these marks the posterior boundary of the brown color band, the second is just anterior to it, the fifth is almost at the periphery, the fourth is the same distance posterior to it as the first to the second, and the third is half way between the second and fourth. The flesh-colored area in front of the suture is marked by five finely incised lines of equal strength and equidistant except for the third and fourth which are set slightly farther apart. There are two finely incised lines between the first and second rows of spiral pits, two between the second and third, three between the third and fourth, and none between the fourth and fifth. The spiral sculpture does not cross the summits of the axial ribs though several of the rows of spiral pits encroach well upon the slopes. The periphery is well-rounded and marked by a smooth area as wide as that separating the fourth and fifth rows of spiral pits. A few of the axial ribs cross the periphery but these evanesce quickly. The base is well-rounded and marked by eighteen fairly strong, subequal, spiral grooves which are unequally spaced. Aperture moderately large, rhomboidal; posterior angle acute; outer lip thin, showing the sculpture within; columella moderately thin, oblique, revolute, but almost straight; parietal wall covered by a thin callus. The type possesses eleven whorls and measures: height, 10.4; greatest diameter, 2.9 mm.

Holotype: No. 1057 Los Angeles Museum coll., dredged at 25 fathoms in gravel, one mile west of the pier at Redondo Beach, California, by M. Gordon and J. Q. Burch in June, 1938. Two paratypes, one Cat. No. 1746 in the California Academy of Sciences Paleo. Type Coll., and the other Cat. No. 1626 in the author's collection, were collected with the type.

A study of the paratypes shows that the finely incised spiral lines do not constitute a constant character, the specimen in the author's collection possessing twelve of these in the flesh-colored zone anterior to the first row of spiral pits. The rows of spiral pits, however, are always five in number though varying in strength from the type, and are especially apparent on the earlier post-nuclear whorls.

This species is evidently most closely related to *Turbonilla*



1, *Pseudochama clarionensis* Willett, side view of type and paratype; 2, upper side of type, all  $\times 2$ .

3, *Turbonilla (Pyrgisus) burchi* Gordon, last four whorls  $\times 5$ ; 4, the shell  $\times 3$ ; 5, antepenult whorl  $\times 12$ .